

Title (en)
NON-ORIENTED ELECTRICAL STEEL SHEETS WITH IMPROVED MAGNETIC PROPERTY AND METHOD FOR MANUFACTURING THE SAME

Title (de)
NICHTORIENTIERTE ELEKTROSTAHLBLECHE MIT VERBESSERTER MAGNETISCHER EIGENSCHAFT UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
FEUILLES D'ACIER MAGNETIQUES NON ORIENTEES POSSEDANT DES PROPRIETES MAGNETIQUES AMELIOREES ET LEUR PROCEDE DE FABRICATION

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Application
EP 06835238 A 20061218

Priority

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Abstract (en)
[origin: WO2007074987A1] The present invention relates to a non-oriented electrical steel sheet, widely used as an iron core in electric devices, and to a method of manufacturing the same. The non-oriented electrical sheet includes 0.004 wt. % or less C; 1.0-3.5 wt. % Si; 0.02 wt. % or less P; 0.001 wt. % or less S; 0.2~2.5 wt. % Al; 0.003 wt. % or less N; 0.004 wt. % or less Ti; Mn, in which the amount of thereof is represented by the following formula (1): $0.10+100 \times S(\text{wt. \%}) = \text{Mn}(\text{wt. \%}) = 0.21+200 \times S(\text{wt. \%}) - (1)$; a balance of iron; and inevitable impurities. According to the present invention, final magnetic properties are greatly improved because fine precipitates are formed by S, the amount of Mn can be suitably determined in order to inhibit the formation of the fine precipitates, the formation of fine precipitate CuS is inhibited because precipitates CuS, MnS are formed by adding Sn, Ni and Cu, and a texture, which determines a temperature of annealing a hot rolled steel plate and magnetic properties, is controlled, thereby manufacturing an inexpensive and optimum non-oriented electrical steel sheet.

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Citation (search report)

- [XA] JP H11293425 A 19991026 - NIPPON KOKAN KK
- [XD] US 6139650 A 20001031 - ODA YOSHIHIKO [JP], et al
- [A] US 5102478 A 19920407 - HOSOYA YOSHIHIRO [JP], et al
- [A] JP H1112699 A 19990119 - SUMITOMO METAL IND
- [A] JP 2004002954 A 20040108 - NIPPON STEEL CORP
- See references of WO 2007074987A1

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